

REMARKS

These remarks are responsive to the Office Action mailed February 9, 2006. Claim 1 has been amended as indicated above. The subject matter of Claim 2 has been added to Claim 1. Claim 2 has thus been cancelled.

Claim Rejection – 35 U.S.C. 112

In applicants' prior amendment, Claim 1 was amended to clarify what is meant by a "redundant" seal. Applicants added the terminology that the redundant back up seal "serves no active sealing function" until the first circumferential seal fails. The Examiner objected to this terminology as not being supported by the specification. Applicants respectfully disagree. Nonetheless, the terminology is not required for patentability and thus has been removed from Claim 1. The rejection under Section 112 should be withdrawn.

Claim Rejection – 35 U.S.C. 102

Claim 1 stands rejected under 35 U.S.C. 102 as being anticipated by Peil (U.S. 4,877,217). Applicants respectfully request reconsideration and withdrawal of this rejection.

The seal arrangement described and claimed in the present application employs a pair of seals, including a primary seal and a redundant back up seal. Should the primary seal fail, the redundant seal will then perform the sealing function performed by the primary seal. In a blow out preventer used in a well, the primary seal prevents the flow of well fluids from flowing past the seal. (See, e.g., the Background of the Invention on page 1 of the application as filed). If the primary seal fails, the redundant back up seal steps in and prevents a total seal loss of the first circumferential seal. (See, e.g., page 2, line 25-28 of the application). The redundant back up seal maintains control over the well in the event of a blow out of the first circumferential seal and prevents well fluids from flowing past the first circumferential seal. (See the Summary of the Invention, particularly at

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page 1, lines 25-28 and page 2, lines 31-34). This enables servicing of the blow out preventer to be deferred until work on the well is completed.

Applicants respectfully reiterate that this critical relationship is not present in the Peil reference.

In Peil, seal 30 performs a sealing function of preventing well bore fluids from flowing in a first direction along ram shaft 26 and back out through a leak detection port 34. While the leak detection port 34 provides a means for visual observation that a blow out of the seal 30 has occurred, the leak detection port 34 also provides a path that accelerates the loss of well fluids.

The operation of seal 32 is not relevant to the operation of seal 30. The sealing function of seal 32 is completely separate from the sealing function of seal 30. Seal 32 prevents pressurized hydraulic fluid in the first chamber 89 of chamber 24 from migrating in a second direction along ram shaft 26. More importantly, the configuration of seal 32 relative to seal 30 does not prevent well fluids from flowing past seal 30 in the event of a blow out of seal 30. Seal 32 may prevent well fluids from flowing into the chamber 89, but that is not relevant to the claimed invention.

The present application, supported by Figures 1 and 2, describes and claims a seal assembly in a blow out preventer in which a second circumferential seal is positioned relative to a first circumferential seal. The second circumferential seal "circumscrib[es] the shaft in axially spaced relation to the first circumferential seal." The second circumferential seal, as claimed, is configured such that it "perform[s] the same sealing function as the first circumferential seal" which is "preventing well fluids from migrating along the shaft from a first region of the body to a second region of the body positioned immediately adjacent to the first region." Moreover, the second circumferential seal, as claimed, "serv[es] as a redundant back up seal until the first circumferential seal experiences seal failure, wherein the configuration of the second circumferential seal relative to the first circumferential seal prevents a total seal loss of the first circumferential seal and prevents

well fluids from flowing past the first circumferential seal in the event of a blow out of the first circumferential seal." When each of these elements are put together with a relative structural arrangement as claimed in Claim 1, it is apparent that the disclosure of Peil does not teach the seal assembly claimed in Claim 1. For *prima facie* anticipation of a claim, a prior art reference must teach not only the constituent parts of an apparatus as claimed, but also the claimed arrangement of the parts. This is not the case with Peil. Put simply, when a blow out of the seal 30 in Peil occurs, well fluids flow past the seal, *notwithstanding the presence of seal 32*. In contrast, according to Claim 1, the "configuration of the second circumferential seal relative to the first circumferential seal prevents a total seal loss of the first circumferential seal and prevents well fluids from flowing past the first circumferential seal in the event of a blow out of the first circumferential seal." Claim 1 is not anticipated by Peil and should be allowed.

CONCLUSION

Applicants respectfully submit that the present application is now in immediate condition for allowance. Should any issues remain needing resolution prior to allowance, the Examiner is invited to contact the undersigned attorney directly by telephone.

Respectfully submitted,

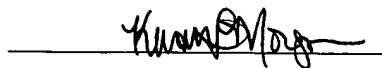
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